JORGENSEN FORGE

ALUMINUM – TITANIUM – SPECIALTY STEELS

8531 EAST MARGINAL WAY SOUTH
SEATTLE, WASHINGTON 98108

PHONE (206) 762-1100 FAX (206) 763-0848

Via Email and Registered First Class Mail

November 22, 2013

Mr. Ravi Sanga
Remedial Project Manager
U. S. Environmental Protection Agency – Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

Re: Jorgensen Forge Outfall Site – CERCLA Docket No. 10-2011-0017

Dear Mr. Sanga:

Thank you for meeting with us last week to discuss the status of the referenced work. The purpose of that meeting, as you know, was to present new soil quality data acquired pursuant to the Second Modification to the Administrative Order on Consent for Removal Action for the Jorgensen Forge Outfall Site (JFOS Order). Those data, which were provided to you at the meeting and will be submitted in a forthcoming data report, indicate that significant PCB concentrations occur in the bank soils to an elevation of approximately -15 feet Mean Lower Low Water (MLLW) rather than approximately -5 feet MLLW, which was the best estimate prior to receipt of the new angle-boring data. The prospect of removing those soils to the lower elevation raises engineering questions related to the steel sheetpile (SSP) design for the shoring needed to excavate upland soils covered under the JFOS Order and bank soils westward of the SSP. Thus, we are respectfully requesting additional time to consider these results and re-evaluate certain aspects of the SSP design. Additional details regarding this request are provided below.

Review of the new soil quality data:

As required by the JFOS Order, borings were advanced into the Potential Additional Shoreline Bank Removal Area, as defined in Figure 1 attachment to the JFOS Order. Five borings were attempted, and one boring met with refusal. The other four were advanced to approximately -16 MLLW. A total of 29 soil samples were analyzed for PCBs. The results were provided at the

meeting and are attached for your convenience in advance of the data report submittal. Analytical results ranged between less than detection to 560 parts per million (ppm) based on dry mass of soil. Please note that, as discussed at the meeting, we are currently analyzing the organic carbon content of these samples so comparisons can be made to the Washington State Department of Ecology Sediment Management Standards (SMS) criteria. These analytical results will be included in the pending data report submittal.

Implications of the new data:

These new data confirm that PCB contamination exists to lower elevations than previously anticipated. As explained at the meeting, the new data, along with evidence in the boring logs, suggest that the fill/native soil contact separates the higher concentrations of PCB in fill soils from low to non-detect concentrations in native soils. However, the deeper high PCB concentrations were not considered in the current design of the early action sediment removal being conducted by EMJ (CERCLA Docket No. 10-2013-0032). In particular, the current design anticipates relatively shallow removal in this area (Sheet C-1 and C-2 of the approved design, see attached). In order to accomplish the much deeper excavation of bank soils, it will be necessary for the SSP and shoring in the upland area to be redesigned in order to ensure support of a greater cantilever load than previously estimated. This redesign must include careful consideration of the effect of water loading - both inside the sheetpile in the upland area and westward of the sheetpile, including the kinetic forces of tidal fluctuations. Since the existing design envisioned use of a very thick and long SSP product, which is available only on special order from Europe and with a lengthy lead time, a rigorous re-design before procurement of the SSP is essential.

Anticipated Schedule:

In connection with the SSP design and installation, we plan to work closely with the respondent conducting the early action sediment/bank removal. Based on the progress of the planning for the deeper bank remedy, the criteria for the SSP are expected by the middle of December, 2013. It is expected that a revised SSP design concept will be available by mid to late January, 2014. Following coordination of the revised SSP design with EPA and SSP suppliers, we would expect to order SSP by the end of January, 2014. Allowing eight weeks for delivery by ship through an east coast seaport, we can begin SSP installation early April, 2014, and allowing up to four weeks to install, the estimated completion will be May, 2014. We understand that this schedule will not in any way interfere with the EMJ early action area bank and sediment removal scheduled to commence late June or beginning of July, 2014.

Conclusion and request for schedule extension:

Based on the foregoing discussion, we respectfully request an extension for the completion of SSP installation by May 16, 2014, rather than the previously specified date for SSP installation of November 30, 2013. Please contact us if there are questions or if additional discussion is desired.

Sincerely,

William D Ernst, 2911

Digitally signed by William D Ernst, 2911
DN: o=Boeing, ou=Secure Messaging, cn=William D Ernst, cn=2911, email=william.d.ernst@boeing.com
Date: 2013.11.22 14:31:52 -08'00'

Sheri Bozic
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Jorgensen Forge Corporation

Will Ernst
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EO&T | EHS | Remediation
The Boeing Company

Attachments: Summary of Soil Analytical Results
Sheet C-1, BODR – Jorgensen Forge Early Action Area
Sheet C-2, BODR – Jorgensen Forge Early Action Area

CC: Philip Spadaro, The Intelligence Group
Dee Gardner, SoundEarth Strategies, Inc.
Tom Colligan, Floyd Snider
Amy Essig-Desai, Farallon
Ryan Barth, AQEA
Holly Arrigoni, EPA
Becky Chu, EPA
Maureen Sanchez, Ecology

SoundEarth Strategies

SUMMARY OF SOIL ANALYTICAL RESULTS
FREIDMAN AND BRUYA, INC. REPORT NO. 310154
JORGENSEN FORGE OUTFALL SITE
SECOND MODIFICATION, PHASE 4A
SEATTLE, WA
CERCLA DOCKET NO. 10-2011-0017

APPROX. ELEV. (feet MLLW)	JFOS2-BH01		JFOS2-BH03		JFOS2-BH04		JFOS2-BH05		APPROX. ELEV. (feet MLLW)
	SAMPLE ID	TOTAL PCBs (mg/kg)	SAMPLE ID	TOTAL PCBs (mg/kg)	SAMPLE ID	TOTAL PCBs (mg/kg)	SAMPLE ID	TOTAL PCBs (mg/kg)	
0.6	JFOS2-BH01-16	**15**	--	--	--	--	--	--	0.6
-0.2	--	--	--	--	JFOS2-BH04-17	**270**	--	--	-0.2
-1.1	JFOS2-BH01-18	<0.02	JFOS2-BH03-18	**280**	--	--	JFOS2-BH05-18	**2.7**	-1.1
-2.0	--	--	--	--	JFOS2-BH04-19 (Duplicate)	**160**	--	--	-2.0
-2.8	JFOS2-BH01-20	**0.17**	JFOS2-BH03-20	**560**	--	--	JFOS2-BH05-20 (Duplicate)	**11**	-2.8
-3.7	--	--	--	--	JFOS2-BH04-21	**34**	--	--	-3.7
-4.6	JFOS2-BH01-22	**0.074**	JFOS2-BH03-22	**110**	--	--	JFOS2-BH05-22	**2.9**	-4.6
-5.4	--	--	--	--	JFOS2-BH04-23	**140**	--	--	-5.4
-6.3	JFOS2-BH01-24	**0.034** js	JFOS2-BH03-24	**0.18**	--	--	JFOS2-BH05-24	<0.02	-6.3
-7.2	--	--	--	--	--	--	--	--	-7.2
-8.0	--	--	JFOS2-BH03-26	**14**	--	--	--	--	-8.0
-8.9	--	--	--	--	--	--	--	--	-8.9
-9.7	--	--	JFOS2-BH03-28	**0.43**	--	--	JFOS2-BH05-28	**4.9**	-9.7
-10.6	--	--	--	--	--	--	--	--	-10.6
-11.5	--	--	JFOS2-BH03-30	**0.055**	JFOS2-BH04-30	**93**	JFOS2-BH05-30	**29**	-11.5
-12.3	--	--	--	--	--	--	--	--	-12.3
-13.2	--	--	JFOS2-BH03-32	<0.02	JFOS2-BH04-32	**0.085**	--	--	-13.2
-14.1	--	--	--	--	--	--	--	--	-14.1
-14.9	--	--	JFOS2-BH03-34	**0.044**	JFOS2-BH04-34	**0.089**	JFOS2-BH05-34	**2.0**	-14.9
-15.8	--	--	--	--	--	--	JFOS2-BH05-35	<0.1	-15.8

NOTES:

signifies total PCB concentration less than or equal to 1 mg/kg, or not detected
signifies total PCB concentration greater than 1 mg/kg
signifies total PCB concentration greater than the TSCA limit of 50 mg/kg
BOLD text signifies at least one PCB congener was detected
Laboratory analysis by Friedman & Bruya of Seattle, Washington
[1]PCBS by EPA Method 8082A

ABBREVIATIONS:

-- = not applicable
< = analyte not detected at or above the reporting limit
ID = identification
mg/kg = milligrams per kilogram
MLLW = mean lower low water
PCB = polychlorinated biphenyl
TSCA = Toxic Substances Control Act

LABORATORY DATA QUALIFIERS:

js = The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

DRAFT FOR AGENCY REVIEW

EMJ016901

CONTROL POINTS		
POINT #	NORTHING	EASTING
1	195800.6	1275755.2
2	195787.9	1275763.7
3	195780.0	1275752.1
4	195683.7	1275816.1
5	195448.4	1275912.1
6	195448.5	1275917.7
7	195397.1	1276938.6
8	195395.9	1275935.7
9	195352.6	1275953.2
10	195355.5	1275960.7
11	195300.9	1275982.8
12	195685.0	1276731.0
13	195665.1	1276743.9
14	195665.2	1275754.6
15	195648.4	1275751.4
16	195633.8	1275787.2
17	195630.8	1276788.4
18	195665.4	1276776.1
19	195641.3	1275785.8

CONTROL POINTS		
POINT #	NORTHING	EASTING
20	195685.5	1275791.3
21	195648.7	1275798.9
22	195665.7	1275813.8
23	195654.5	1275818.3
24	195905.3	1275796.4
25	195590.5	1275800.1
26	195691.5	1275802.1
27	195598.2	1275818.8
28	195605.6	1275837.5
29	195561.2	1275802.4
30	195561.2	1275810.6
31	195628.8	1276615.7
32	195627.7	1276718.2
33	195529.8	1275823.2
34	195540.8	1275850.6
35	195642.0	1275853.4
36	195645.4	1275861.8
37	195467.2	1276830.4
38	195468.6	1275833.8

CONTROL POINTS		
POINT #	NORTHING	EASTING
39	195471.8	1275840.8
40	195476.3	1275850.3
41	195479.8	1275861.4
42	195484.7	1275873.4
43	195489.5	1275885.2
44	195490.8	1275646.8
45	195406.8	1275859.4
46	195412.4	1275875.6
47	195429.8	1275871.4
48	195433.5	1275880.2
49	195443.4	1275904.8
50	195444.8	1275906.8
51	195394.5	1275855.7
52	195409.9	1275924.0
53	195392.8	1275926.3
54	195337.0	1275882.5
55	195340.3	1275870.7
56	195342.6	1275878.4
57	195352.3	1275900.0

CONTROL POINTS		
POINT #	NORTHING	EASTING
58	195353.2	1275902.4
59	195353.9	1275904.3
60	195360.2	1275919.8
61	195366.8	1275936.2
62	195340.2	1275922.9
63	195341.9	1275927.1
64	195348.7	1275943.5
65	195299.5	1275977.9
66	195333.0	1275863.4
67	195328.6	1275845.8
68	195289.5	1275855.4
69	195294.1	1275872.9
70	195280.2	1275878.5
71	195284.7	1275887.8
72	195288.8	1275902.4
73	195286.0	1275898.0
74	195296.9	1275917.8
75	195300.3	1275925.9
76	195303.0	1275932.9

CONTROL POINTS		
POINT #	NORTHING	EASTING
77	195304.9	1275937.2
78	195316.9	1275967.1
79	195290.2	1275935.8
80	195298.8	1275873.7
81	195187.8	1275899.2
82	195189.1	1275905.4
83	195190.0	1275909.2
84	195197.2	1275940.4
85	195198.9	1275948.4
86	195200.7	1275956.1
87	195203.3	1275967.9
88	195211.4	1276003.0
89	195143.4	1275910.2
90	195144.8	1275915.5
91	195146.7	1275925.1
92	195154.1	1275957.3
93	195158.9	1275978.0
94	195161.1	1275988.1
95	195166.9	1276013.2

CONTROL POINTS		
POINT #	NORTHING	EASTING
96	195167.7	1276017.2
97	195122.2	1275915.4
98	195122.0	1275930.6
99	195121.5	1275984.8
100	195121.1	1275987.3
101	195120.7	1276027.9
102	195557.6	1275916.6
103	195570.2	1275948.1
104	195507.2	1275947.3
105	195488.8	1275854.6
106	195469.0	1275943.7
107	195460.1	1275950.2
108	195410.1	1275978.5
109	195412.3	1275984.2
110	195424.2	1275988.3
111	195432.7	1275987.7
112	195484.0	1275983.9
113	195484.0	1275970.8
114	195484.0	1275961.1

CONTROL POINTS		
POINT #	NORTHING	EASTING
115	195480.0	1275955.3
116	195581.2	1275925.2
117	195703.5	1275967.8
118	195615.1	1275792.8
119	195820.2	1275784.6
122	195665.6	1276066.8
123	195308.3	1276026.3
124	195301.7	1275986.6

LEGEND: SCHEDULE A

- NAVIGATION CHANNEL
- EXISTING CONTOUR (1' FT INTERVAL)
- EXISTING BOEING SHEETPILE WALL
- CONTAINMENT BARRIER (BY OTHERS, DO NOT DISTURB)
- TEMPORARY SECURITY FENCE
- DREDGE/EXCAVATION LIMITS
- PROTECT EXISTING MONITORING WELL
- REQUIRED DREDGE ELEVATION (FT MLLW)
  TOP OF SIDESLOPE
  FINAL GRADE
  DREDGE COORDINATE
  DREDGE BOUNDARY (DENOTES CHANGE IN ELEVATION)
- SLOPE ARROW
- STRUCTURES TO BE PRESERVED AND PROTECTED ADJACENT TO DREDGE/EXCAVATION LIMITS
- TOE TRENCH TO BE CONSTRUCTED AT BASE OF 2H:1V BANK DREDGE/EXCAVATION SLOPE, SEE C-10
- CONTROL POINT

SCHEDULE B

- UPLAND EXCAVATION AREAS (EXCAVATE AND BACKFILL IMMEDIATELY WITH UPLAND BACKFILL MATERIAL PRIOR TO STARTING DEMOLITION AND OTHER EXCAVATION WORK)
- POTENTIAL NON-TSCA AND TSCA REMOVAL BELOW REQUIRED DREDGE LINE AREA, SEE 6 C-10

CONTAINMENT BARRIER (BY OTHERS, DO NOT DISTURB)

MAINTAIN 5' OFFSET FROM BUILDING

MAX 2H:1V ALLOWABLE SIDE SLOPE FOR PAY PURPOSES - ABANDON / DECOMMISSION MONITORING WELL

MAINTAIN 5' OFFSET (FROM CONCRETE PAD)

PROPERTY LINE

APPROXIMATE 2H:1V SLOPE TRANSITIONS TO EXISTING GROUND AT 5' OFFSET FROM WALL

WALL OFFSET (5' MIN)

POTENTIAL NON-TSCA AND TSCA REMOVAL BELOW REQUIRED DREDGE LINE AREA, SEE 6 C-10

APPROXIMATE BOEING DREDGE AREA (TO BE COMPLETED BY OTHERS)

LOWER DUWAMISH WATERWAY

FOR STORM OUTFALL PLAN, PROFILE AND DETAILS, SEE DRAWINGS C-11 AND C-12 (SCHEDULE B)

NOTES

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD 83 FEET.
2. VERTICAL DATUM: MEAN LOW LOW WATER (MLLW).
3. FINAL DREDGE MANAGEMENT UNIT (DMU) PLAN TO BE DEVELOPED AT PRE-CONSTRUCTION BASED ON CONTRACTORS EQUIPMENT AND APPROACH.
4. A NOMINAL 6-INCHES OF BACKFILL MATERIAL WILL BE PLACED OVER THE DREDGE OR EXCAVATION CUTS WITHIN A DMU IN A TIMELY MANNER, AS SOON AS PRACTICAL, AFTER THE DREDGING AREA IS COMPLETED AND ACCEPTED BY THE ENGINEER.
5. IN-WATER DREDGE/EXCAVATION LIMIT WILL BE DEFINED BY A 2H:1V CATCH SLOPE FROM THE TOE OF CUT.

NORTH

0 30 60

SCALE IN FEET

BID SET

ONE INCH

IF FULL SIZE, IF NOT ONE INCH SCALE AS APPROPRIATE

ANCHOR QEA

EARLE M. JORGENSEN COMPANY & JORGENSEN FORGE CORPORATION

REVISIONS				
REV.	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: R. PICKERING
DRAWN BY: T. GRIGA
CHECKED BY: R. BARTH
APPROVED BY: J. VERDUIN
SCALE: AS NOTED
DATE: MAY 2013

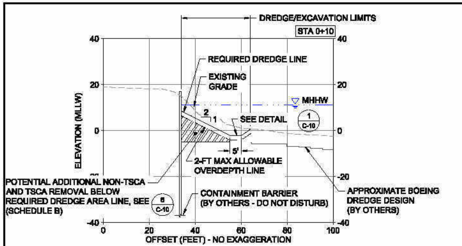
JORGENSEN FORGE EARLY ACTION AREA

DREDGE/EXCAVATION PLAN

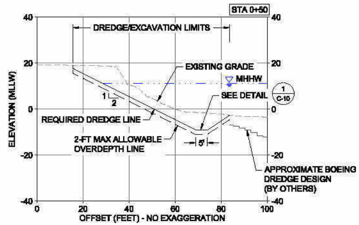
C-1

SHEET NO. 6 OF 19

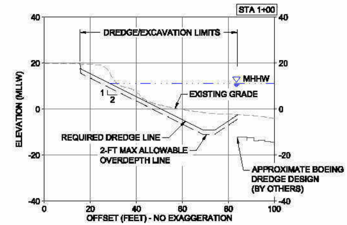
EMJ016902



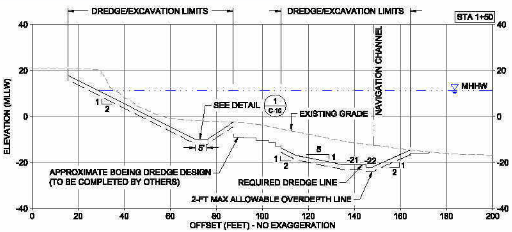
A/C-1 **DREDGE/EXCAVATION SECTION**
SCALE: 1" = 20'



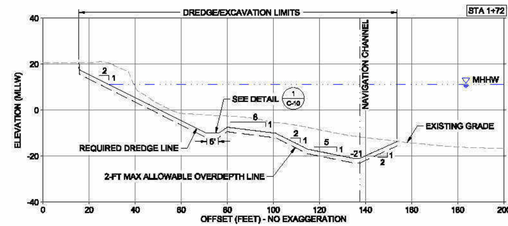
B/C-1 **DREDGE/EXCAVATION SECTION**
SCALE: 1" = 20'



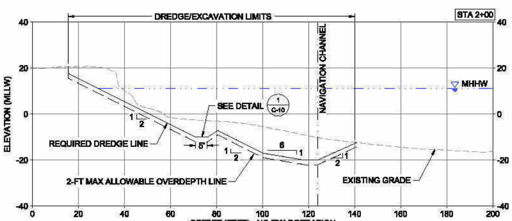
C/C-1 **DREDGE/EXCAVATION SECTION**
SCALE: 1" = 20'



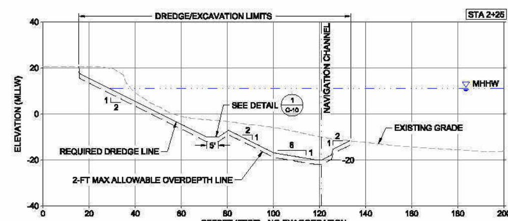
D/C-1 **DREDGE/EXCAVATION SECTION**
SCALE: 1" = 20'



E/C-1 **DREDGE/EXCAVATION SECTION**
SCALE: 1" = 20'



F/C-1 **DREDGE/EXCAVATION SECTION**
SCALE: 1" = 20'



G/C-1 **DREDGE/EXCAVATION SECTION**
SCALE: 1" = 20'

NOTES:

1. VERTICAL DATUM: MEAN LOW LOW WATER (MLLW).
2. EXISTING TOPOGRAPHY CREATED FROM A MERGE OF SURVEY DATA BY ANCHOR QEA INCLUDING UPLAND SURVEY BY PLS INC. (1/24/12), BATHYMETRIC SURVEY BY ETRAC (2/8/12), BANK SURVEY BY AEC CONSULTANTS INC (2/21/12), AND ADDITIONAL BANK SURVEY BY DUANE HARTMAN & ASSOCIATES, INC. (10/25/20).
3. FOR TYPICAL DREDGE EXCAVATION DETAIL, SEE 1/C-10

LEGEND:

- EXISTING GRADE
- REQUIRED DREDGE LINE
- 2-FT MAX ALLOWABLE OVERDEPTH LINE

ONE INCH — AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

BID SET

K:\Projects\0224-Farallon Consulting\Jorgensen Forge Facility EE-CA\Implement\Construction Plans\0224-C-Dredge.dwg 7 C-2

May 31, 2013 10:58am tgriga

ANCHOR QEA

EARLE M. JORGENSEN COMPANY
&
JORGENSEN FORGE CORPORATION

JOHN R. VERDUIN — STATE OF WASHINGTON — 27579 — REGISTERED PROFESSIONAL ENGINEER
Expires 2/16/15

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: R. PICKERING
DRAWN BY: T. GRIGA
CHECKED BY: R. BARTH
APPROVED BY: J. VERDUIN
SCALE: AS NOTED
DATE: MAY 2013

JORGENSEN FORGE EARLY ACTION AREA

DREDGE/EXCAVATION CROSS SECTIONS

C-2

SHEET NO. 7 OF 19

EMJ016903